

Name:	Date:
-------	-------

Experiment: Carbohydrates in Food

Making a sheet from starch

Equipment

Heating plate, beakers, a polyethylene (PE) bowl

Materials

Food: starch (preferably corn starch)

Reagents: 50% glycerol solution

Introduction

In the previous experiments you have learned about starch in food products. But starch is not only a nutrient, and can also be used in technical applications. The following experiment will illustrate that. We want to make a film – not out of plastics, but out of starch. As opposed to plastics, starch is a natural, renewable raw material that does not harm the environment and is completely biodegradable.

Experiment

- In a beaker, mix 2.5 g potato starch with 20 mL water and 2 mL aqueous glycerol solution.
- Boil the mixture for 15 min. in the water bath
- During this process, you might cover the beaker with a glass plate, but stirring is required once a while.
- Apply the gel evenly and not too thin on the bottom of the upside-down PE-bowl.
- Leave the sheet to dry overnight at ambient temperature.
- The next day peel away the film from the bowl.

Observation

Describe your observations and compare the characteristics of the home-made sheet with other plastic sheets you know of.
